

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 December 2004 (29.12.2004)

PCT

(10) International Publication Number
WO 2004/112871 A1

(51) International Patent Classification ⁷ :	A61M 5/30		(74) Agents:	JOHNSON, Brent, A. et al.; c/o Allergan, Inc., 2525 Dupont Drive, Irvine, CA 92612 (US).
(21) International Application Number:	PCT/US2004/019491		(81) Designated States (unless otherwise indicated, for every kind of national protection available):	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
(22) International Filing Date:	17 June 2004 (17.06.2004)		(84) Designated States (unless otherwise indicated, for every kind of regional protection available):	ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
(25) Filing Language:	English		(Published):	
(26) Publication Language:	English		— with international search report	
(30) Priority Data:			— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments	
60/480,320	20 June 2003 (20.06.2003)	US		
60/480,784	23 June 2003 (23.06.2003)	US		
60/480,665	23 June 2003 (23.06.2003)	US		
60/484,069	1 July 2003 (01.07.2003)	US		
60/491,159	29 July 2003 (29.07.2003)	US		
60/494,463	11 August 2003 (11.08.2003)	US		
60/497,780	26 August 2003 (26.08.2003)	US		
60/497,992	26 August 2003 (26.08.2003)	US		

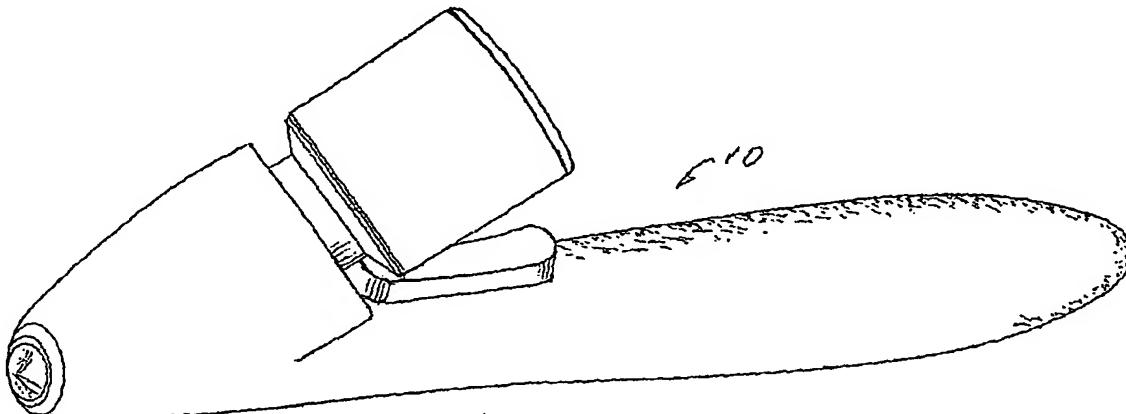
(71) Applicant (for all designated States except US): ALLERGAN, INC. [US/US]; 2525 Dupont Drive, Irvine, CA 92612 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): KIMMEL, Steven, D [US/US]; 12754 Deon Place, Granada Hills, CA 91344-1001 (US). GERONDALE, Scott, J. [US/US]; 12 Risero Drive, Mission Viejo, CA 92692 (US).

(54) Title: NEEDLESS INJECTORS

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



(57) Abstract: A needleless injector generally includes a barrel having a proximal and a distal end and a bore therethrough along barrel proximal end and a bolt may be disposed in said bore for reciprocating movement therein, from a first position to a second position for drawing medicament into the bore, the bolt being fitted in the bore in order to force medicament through the injection head upon movement of the bolt from the second to the first position. A mechanism is provided for activating the energy source in order to operate the bolt.

WO 2004/112871 A1